

REMARKS

The claims have been rejected under 35 U.S.C. 103(a) as being unpatentable over Mullendore (US 2003/018514) in view of Beukema (USP 6,978,300). The claims have been amended to facilitate prosecution. Claim 4 has been cancelled. Claims 28-31 have been added. Claims 1-3, 5-20, and 24-31 are now pending.

Claim 1 recites an apparatus configured to “send a transfer ready command frame to the Host before receiving the transfer ready command from the target.” Claims 24 and 27 recite “sending a transfer ready command including the initialized RX_ID value to the host prior to receiving a transfer ready command from the target, wherein sending the transfer ready command to the host allows the switch to operate as a proxy for the target.” Neither reference either alone or combination teaches or suggests these recitations. Beukema, for example, does not teach or suggest sending the transfer ready to the host before receiving the transfer ready command from the target. The Examiner may attempt to argue that Mullendore describes these recitations. The Applicants’ Representative respectfully disagrees.

Mullendore does send transfer ready commands to an initiator. However, these transfer ready commands are sent either after a transfer ready command is received from the target or are sent in absence of a transfer ready command from the target. For example, Figures 5, 6, 11, and 12 show a switch sending the transfer ready command to the host after the transfer ready command is received from the target. Figures 4 and 7 show a switch sending the transfer ready command to the host in absence of a transfer ready command from the target. In other words, the switch sending the transfer ready command to the host in these figures never receives the transfer ready command from the target. None of these Figures show a transfer ready command sent to the host before a transfer ready command is received from the target.

Independent claim 1 also recites an apparatus configured to process the trapped write command by “modifying the OX_ID or RX_ID of the write command header to include a value; wherein the processor is further configured to initialize a receiver exchange identifier (RX_ID) of a transfer ready command with the value and send a the transfer ready command frame to the initiating Host before receiving the a transfer ready command from the target.” Independent claims 24 and 27 recite “initializing the receiver exchange identifier (RX_ID) value to generate an initialized RX_ID value,” “sending the transfer ready command including

the initialized RX_ID value,” “modifying the originator exchange identifier (OX_ID) of the write command to include the initialized RX_ID value to generate a modified write command,” and “forwarding the modified write command to the target.”

The Examiner notes that Mullendore does not teach or suggest “a frame having a header with an OX_ID or RX_ID” and does not modify or initialize either the OX_ID or RX_ID of the write command header, or of the transfer ready command, as claimed. The Examiner relies on Beukema to teach or suggest this recitation. The Examiner argues that Beukema states that routers routinely modify packet network headers and that the network header includes routing information such as the destination IP address and other network routing information. However, Applicant respectfully asserts that none of the cited references discloses or suggests modifying the OX_ID or RX_ID in the manner claimed.

The Applicants’ Representative respectfully submits that modifying a network header “when the packet crosses a subnet boundary” (column 11, lines 36-38) is not modifying an OX_ID or an RX_ID in a frame. According to various embodiments, the OX_ID and RX_ID values are separate from source and destination addresses that the Examiner argues are the OX_ID and RX_ID. If the techniques of the present invention were to simply modify the source and destination addresses, the write command would be misrouted. Consequently, the techniques of the present invention intelligently operate to modify the OX_ID or RX_ID to for example, allow the switch to “operate as a proxy for the target” as recited in independent claims 24 and 27. As such, Applicant respectfully asserts that the combination of the cited references would fail to achieve the desired result.

Various independent claims also recite “initializing” the RX_ID or OX_ID. It is true that some routers will sometimes change source and destination addresses at subnet boundaries as Beukema states. However, even if these source and destination addresses are properly interpreted to be OX_ID and RX_ID values, Beukema still does not initialize source and/or destination addresses at a switch. Applicant respectfully asserts that initialization is not the same as modification, contrary to the Examiner’s interpretation. Rather, initialization is performed to set an initial value to one that is uninitialized. If a source and destination address in Beukema were transmitted uninitialized to a switch, the switch would not know what to do with the uninitialized value and it would lead to error and improper network operation. By contrast, the independent claims recite initializing an OX_ID or RX_ID value. The initialized value may then

be sent to the host in a transfer ready command. Applicant respectfully asserts Mullendore and/or Beukema fail to disclose or suggest the recitations noted above, but these recitations are not taught or suggested by the cited references and cannot be assumed.

It is also important to note that by modifying the OX_ID and/or RX_ID values, an intercepting switch may track exchanges. The cited references fail to disclose or suggest such advantages. In addition, the cited references neither disclose nor suggest that an apparatus might need to track such exchanges in order to manage data transfers where transfer ready commands have been sent to the host before a transfer ready command has been received from the target. Thus, the pending claims achieve numerous advantages over the cited art.

Based on the foregoing, it is submitted that the independent claims are patentable over the cited references. In addition, it is submitted that the dependent claims are also patentable for at least the same reasons. For example, the limitations as recited in dependent claims 17 and 18 are not shown or suggested in either of the cited references, separately or in combination. The additional limitations recited in the independent claims or the dependent claims are not further-discussed as the above-discussed limitations are clearly sufficient to distinguish the claimed invention from the cited references. Thus, it is respectfully requested that the Examiner withdraw the rejection of the claims under 35 USC §103.

CONCLUSION

In light of the above remarks, the rejections to the independent claims are believed overcome for at least the reasons noted above. Applicants' Representative believes that all pending claims are allowable in their present form. If the Examiner has any questions or concerns for Applicants' Representative, the Examiner is encouraged to contact her at the number provided below.

Respectfully submitted,
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